Coprological Diagnosis of Gastrointestinal Parasites in Captive Primates in Peninsular Malaysia

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Abstract

The present study was undertaken to determine the prevalence of gastrointestinal parasites in captive primate populations in three Zoos in Peninsular Malaysia. A total of 52 faecal samples were collected from the enclosures of five species of local primates comprising Orang Utans (Pongo pygmaeus), White-Handed Gibbons (Hylobates lar), Siamangs (Symphalangus syndactylus), Stump-tail Macaques (Macaca arctoides) and Slow Loris (Nycticebus coucang). The samples were subjected to Formal-Ether sedimentation, Ziehl-Neelsen and Giemsa staining for microscopy detection of helminth ova and protozoan cysts. PCR with species-specific primers were used to detect Cryptosporidium. A total of 46 (88%) faecal samples were positive for various parasites by microscopy. The most common parasite harboured by the captive primates was Entamoeba (65.4%), followed by Strongyles (40.4%), Strongyloides (15.4%) and Cryptosporidium (9.6%). Balantidium and Trichuris showed relatively low infection rates (1.9%). PCR assay had a higher sensitivity (15.4%) for the detection of Cryptosporidium compared to conventional microscopy and Ziehl-Neelsen staining (9.6%). The high rate of infection with Entamoeba and Cryptosporidium, and the presence of Balantidium in the captive primates are of concern as they pose a potential zoonotic risk to animal handlers, keepers and the public.

Keywords: Gastrointestinal parasites, primates, PCR